REMARKS

Claims 1-27 are pending in the present application. In the Office Action mailed October 31, 2006, the Examiner rejected claims 1-4, 6-12, 14-21, and 23-27 under 35 U.S.C. §102(b) as being anticipated by Gordon et al. (USP 5,661,774) "Gordon." The Examiner next rejected claims 5, 13, and 22 under 35 U.S.C. §103(a) as being unpatentable over Gordon in view of Heuscher (USP 5,262,946).

The Examiner rejected claims 1, 8, 16, 19 and 24 under 35 U.S.C. §102(b) as being anticipated by Gordon. Claim 1 calls for, in part, a CT system having a number of HF electromagnetic energy filters <u>in a spoked relationship</u> with the hub, wherein a first filter is positioned between the HF electromagnetic energy source and the subject by rotation of the hub and a second filter is positioned between the HF electromagnetic energy source and the subject by rotation of the hub. Claim 8 calls for, in part, positioning a first portion of a filtering apparatus <u>in a spoked relationship</u> with a hub, and positioning a second portion of the filtering apparatus <u>in a spoked relationship</u> with the hub. Claim 16 calls for, in part, positioning a first filter by rotation of a hub <u>in a spoked relationship</u> with the first filter, and positioning a second filter by rotation of the hub <u>in a spoked relationship</u> with the second filter. Claim 19 calls for, in part, rotating a hub to position a first filter, <u>in a spoked relationship</u> with the hub, and rotating the hub to position a second filter, <u>in a spoked relationship</u> with the hub, between the HF electromagnetic energy source and the subject. Claim 24 calls for, in part, a hub, a first filter connected to the hub at a first connection port, and a second filter connected to the hub at a second connection port, wherein the first and second filters are <u>in a spoked relationship</u> with the hub.

Gordon teaches "an improved power supply that is useful in connection with dual energy X-ray systems." *Gordon., Col. 1, lns. 13-16.* "Filter 262 is a preferably flat disk that is disposed proximal to X-ray tube 128 for rotation within the beam generated by X-ray tube 128." *Id., Col. 13, lns. 15-17.* Filter 262 is a <u>flat metal disk</u> with six pie shaped segments, with three of the segments 270 formed from relatively thick material, and three segments 272 formed from relatively thin material. *See Id., Col. 13, lns. 23-33.* "Segments 270 and 272 are alternately disposed so that each of the thick segments 270 is adjacent to two of the thinner segments 272, and vice versa." *See Id., Col. 13, lns. 37-39.* Filter 262 rotates to dispose segments 270 and 272 alternately in the beam. *See Id., Col. 13, lns. 40-44.*

The Examiner alleges that the filters having a spoked relationship as called for in claims 1, 8, 16, 19, and 24 are anticipated by Gordon under §102(b), by simply stating that the "metal disk filter of Gordon is rotated between high and low energy levels," and "the filter position is

adjusted such that the first filter is positioned between the energy source and the source by rotation of the hub or metal disk when the energy source is energized to the first energy state and the second filter is positioned between the energy source and the subject by rotation of the hub or metal disk when the energy source is energized to the second energy state." *Office Action,* 10/31/06, Pg. 2. The Examiner additionally cited a Merriam-Webster Online dictionary in support of such conclusion that the "hub is the 'central part of a circular object (wheel or propeller)' as the metal disk in Gordon et al. and spokes are 'any of the small radiating bars inserted in the hub of a wheel to support the rim' as the segments of the disk in Gordon et al." *See Id.*

The disk filters of Gordon are not in a spoked relationship to one another as called for by Applicant. Although Applicant does not accede to the definitions cited by the Examiner, the disk filters of Gordon do not even meet a definition of "spokes" <u>according to the Examiner's own definition</u>. That is, Gordon neither teaches nor suggests filters in a spoked relationship with a hub having "radiating bars." As best as can be understood, by the Examiner's definition the Examiner is calling the flat disk of Gordon a "hub." If the flat disk is the "hub," then how can the segments of the disk be both the hub and the spokes? By the Examiner's definition, the hub should have bars inserted therein to support a rim. There are no "bars" inserted into and extending from the filter disk/hub to support a rim.

Rather, the filters of Gordon are flat segments 270, 272 of filter 262. Perhaps the confusion regarding Gordon arises from the Figures illustrating filter 262, wherein radial lines of delineation segment filter 262 into flat segments 270, 272. Filter 262 of Gordon is illustrated in Figures 5, 7, and 9, and the supporting text, beginning at Col. 13, ln. 8 of Gordon, presented below <u>in whole with emphasis added</u>, will better elucidate that which is taught by Gordon:

> For the preferred dual energy baggage scanner shown in FIGS. 1-3, as seen in FIG. 5, in order to further enhance the disparity between the energy levels of high and low energy beams passing through the baggage being scanned, the waveform generator 186 preferably includes a motor 260 for rotating a filter 262, a rotary shaft encoder 264, and a digital-to-analog converter 268. <u>Filter 262 is a preferably flat disk that is disposed proximal to X-ray tube 128 for rotation within the beam generated by X-ray tube 128</u>. Rotary shaft encoder 264 senses the angular position of filter 262 and generates a digital signal representative thereof, and applies this digital signal to digital-to-analog converter 268. The latter generates an analog signal representative of the digital signal generated by encoder 264 and applies the analog signal to amplifier 230 of power supply 200.
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> In the illustrated embodiment, <u>filter 262 is a flat metal disk that is divided up into</u>

six equally sized "pie shaped" segments, although the number of segments can vary. Three of the segments 270 are formed from relatively thick sheets 128 of dense material (e.g., 0.6 mm of copper) that are sufficiently thick so as to absorb a portion of the low energy photons generated by X-ray tube 128 and are sufficiently thin so as to transmit substantially all of the high energy photons generated by tube 128. The three remaining segments 272 are formed from relatively thin sheets of light material (e.g., 0.1 mm of aluminum) and are sufficiently thinner than segments 270 so that segments 272 transmit a higher percentage of the low energy photons generated by tube 128. Segments 270 and 272 are alternately disposed so that each of the thick segments 270 is adjacent two of the thinner segments 272, and vice versa.

In operation, filter 262 rotates under the control of motor 260, and analog-to-digital converter 268 generates a periodically varying analog signal representative of the angular orientation of filter 262, and specifically indicating whether a segment 270 or a segment 272 is disposed in the beam 124. In the illustrated embodiment, converter 268 preferably generates a sinusoidal signal characterized by frequency f_1, where f_1 is equal to three times the rotational frequency of filter 262. As stated above, the rate or frequency f_1 of the signal generated by converter 268 and applied to amplifier 230 controls the periodic rate at which the X-ray beam changes between high and low energy levels. Since the signal generated by converter 268 is synchronized with the rotation of filter 262, waveform generator 186 insures that the periodic rate of change of the X-ray beam between the two energy levels is synchronized with the rotation of filter 262.

In the illustrated embodiment, filter 262 preferably rotates 120° for every oscillation of the X-ray beam, and the initial position of filter 262 is adjusted so that one of the thicker sections 270 is disposed in the beam between the tube 128 and the baggage 112 (shown in FIG. 1) when tube 128 generates the high energy beam (i.e., when the voltage level between node A and system ground equals V_1), and one of the thinner sections 272 is disposed in the beam when tube 128 generates the low energy beam (i.e., when the voltage level between node A and system ground equals V_2). So filter 262 removes a portion of the low energy photons from the high energy beam and filter 262 removes few if any of the low energy photons from the low energy beam. So filter 262 acts to increase the disparity between the energy levels of the high and low energy beams generated by tube 128.

In the preferred embodiment, the rotation of filter 262 (and therefore the oscillation of the X-ray beam) is synchronized to the rotation of rotating disk 124 of the baggage scanner (shown in FIGS. 1-3), so that the X-ray beam periodically changes between the high and low energy levels and back to the high energy level (one cycle or period of the waveform) N times for every 360° rotation of disk 124, where N is an integer. In one preferred embodiment N is equal to 600, although this number can clearly vary. It will be appreciated that N low energy projections and N high energy projections will be thereby provided for each 360° rotation of disk 124

Accordingly, Gordon teaches a disk-shaped filter 262 having alternating filter segments 270 and 272. The filter 262 is positioned between the x-ray source and the object to be scanned. The filter rotation is synchronized with rotation of the gantry. As stated, filter 262 is illustrated in Figs. 5, 7, and 9. As such, filter 262 includes alternating flat segments 270, 272 in a disk shape, and filter 262 is rotated such that flat segments 270 and 272 alternate between the x-ray source and an object to be scanned.

MPEP §2131 states that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP §2131 further requires that "[t]he identical invention must be shown in as complete detail as is contained in the ... claim" and that "[t]he elements must be arranged as required by the claim." Clearly Gordon does not meet this requirement. The filter of Gordon does not have segments in a spoked arrangement. Gordon does not teach small radiating bars inserted into the hub of a wheel to support a rim. Rather, Gordon teaches a flat disk filter, and one skilled in the art would recognize that a disk is not identical to a spoked wheel. In fact, the Examiner equated the metal disk of Gordon, i.e. filter 262, as the hub of a spoked wheel. With that interpretation, there are thereby no "spokes" extending radially to a rim, and the metal disk is not in a spoked relationship with <u>anything</u>. Thus the elements of claims 1, 8, 16, 19, and 24 are neither expressly <u>nor inherently</u> described by Gordon.

Accordingly, that called for in claims 1, 8, 16, 19, and 24 is not taught or suggested by Gordon. As such, Applicant believes that claims 1, 8, 16, 19, and 24 and claims which depend therefrom, are patentably distinct over the art of record.

The Examiner rejected claims 5, 13, and 22 under 35 U.S.C. §103(a) as being unpatentable over Gordon in view of Heuscher. Applicant respectfully disagrees with the Examiner with respect to the art as applied, and in light of claims 5, 13, and 22 depending from what are believed otherwise allowable claims, Applicant requests allowance of claims 5, 13, and 22 based on the chain of dependency.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-27.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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